

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for generating optical structures in a photoresist comprising the steps of:
 - (a) forming a pool of photoresist on a first side of a transparent substrate;
 - (b) exposing the photoresist to create a predetermined three-dimensional pattern of optical structures using a laser positioned on second side of the transparent substrate opposite the first side by moving the focal point of a beam from the laser in a controlled pattern to define the optical structure ;
 - (c) developing the exposed predetermined pattern leaving a developed portion and an undeveloped portion; and
 - (d) removing either the developed portion or the undeveloped portion of the photoresist.
2. (Original) A method as recited in claim 1 wherein:
a surface of the first side of the transparent substrate is substantially planar.
3. (Original) A method as recited in claim 1 wherein:
a surface of the first side of the transparent substrate includes three-dimensional contours or features.
4. (Original) A method as recited in claim 1 wherein:
the transparent substrate is sapphire, quartz, glass, or lithium niobate.
5. (Original) A method as recited in claim 1 further comprising the step of:
placing a perimetric wall around the transparent substrate to create a chamber in which the photoresist can be pooled over the entire first side of the transparent substrate.

6. (Original) A method as recited in claim 1 wherein:
the laser operates at a wavelength of not more than about 500 nm.
7. (Original) A method as recited in claim 1 wherein:
the laser operates at a wavelength of about 248 nm.
8. (Original) A method as recited in claim 1 wherein:
the predetermined three-dimensional pattern includes optical structures having a depth of at least 100 microns.
9. (Original) A method as recited in claim 3 further comprising the step of:
placing a perimetric wall around the transparent substrate to create a chamber in which the photoresist can be pooled over the entire first side of the transparent substrate.
10. (Original) A method as recited in claim 9 wherein:
the predetermined three-dimensional pattern includes optical structures having a depth of at least 100 microns.
11. (Withdrawn) A three-dimensional optical structure produced in a photoresist supported on a transparent substrate produced by a method comprising the steps of:
 - (a) forming a pool of photoresist on a first side of a transparent substrate;
 - (b) exposing the photoresist to create a predetermined three-dimensional pattern of optical structures using a laser positioned on the second side of the transparent substrate opposite the first side;
 - (c) developing the exposed predetermined pattern leaving a developed portion and an undeveloped portion; and
 - (d) removing either the developed portion or the undeveloped portion of the photoresist.
12. (Withdrawn) A three-dimensional optical structure as recited in claim 11 wherein:

a surface of the first side of the transparent substrate is substantially planar.

13. (Withdrawn) A three-dimensional optical structure as recited in claim 11 wherein:

a surface of the first side of the transparent substrate includes three-dimensional contours or features.

14. (Withdrawn) A three-dimensional optical structure as recited in claim 11 wherein:

the transparent substrate is sapphire, quartz, glass, or lithium niobate.

15. (Withdrawn) A three-dimensional optical structure as recited in claim 11 further comprising the step of:

placing a perimetric wall around the transparent substrate to create a chamber in which the photoresist can be pooled over the entire first side of the transparent substrate.

16. (Withdrawn) A three-dimensional optical structure as recited in claim 11 wherein:

the laser operates at a wavelength of not more than about 500 nm.

17. (Withdrawn) A three-dimensional optical structure as recited in claim 11 wherein:

the laser operates at a wavelength of about 248 nm.

18. (Withdrawn) A three-dimensional optical structure as recited in claim 11 wherein:

the predetermined three-dimensional pattern includes optical structures having a depth of at least 100 microns.

19. (canceled)

20. (canceled)

21. (Withdrawn) A three-dimensional optical structure as recited in claim 11 wherein:

the photoresist is a negative photoresist material and the undeveloped portion is removed in the removing step.

22. (Withdrawn) A three-dimensional optical structure as recited in claim 11 wherein:

the photoresist is a positive photoresist material and the developed portion is removed in the removing step.